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MANAGEMENT PRACTICES, ENVIRONMENTAL CHARACTERISTICS AND ORGANIZ--ETC(U)
FEB 81 J R TERBORG, J M KOMOCAR N00014-78-C-0756

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Management Practices,

Environmental Characteristics

and Organizational Performance.

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Technical Report 81-8

FINAL REPORT.

~~February~~ 1981

Prepared with the support of the Organizational Effectiveness Research Program, Office of Naval Research (Code 452), under Contract No. 00014-78-C-0756, NR 170-877.

17

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: FINAL REPORT 81-8	2. GOVT ACCESSION NO.: AD-A096 850
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle): Management Practices, Environmental Characteristics and Organizational Performance	5. TYPE OF REPORT & PERIOD COVERED: FINAL REPORT 1-1-79 to 2-28-81
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): James R. Terborg and John M. Komocar	8. CONTRACT OR GRANT NUMBER(s): No. 00014-78-C-0756
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Department of Management, College of Business Administration, University of Oregon, Eugene OR 97403	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: NR 170-877
11. CONTROLLING OFFICE NAME AND ADDRESS: Organizational Effectiveness Research Programs, Office of Naval Research, Arlington VA 22217	12. REPORT DATE: February, 1981
	13. NUMBER OF PAGES: 30
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)	15. SECURITY CLASS. (of this report): UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Satisfaction	group process
Climate	supervisory practices
Likert	organization practices
Organization Performance	aggregate attitudes
Turnover	

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Organization performance was investigated as a function of internal organization characteristics and local external environmental factors. Aggregate employee ratings from 2540 people in 19 homogenous retail stores were found to be significantly correlated with objective measures of profit, sales per employee, and turnover rate. Community buying power and unemployment rate also correlated with these performance measures. The importance of internal management practices for unit performance is discussed. The need to consider performance in the context of demands, opportunities and constraints also is articulated.

Management Practices, Environmental Charcteristics and Organizational Performance

How well or how poorly an organization performs is a function of factors external and internal to that organization. Much organizational research, however, has been designed to emphasize the importance of internal organizational conditions (Pfeffer & Salancik, 1978). Following this line of arguement, organizations are thought to be effective when there is an absence of internal conflict, communication flow is frequent and accurate, and employees are satisfied. But, little of this research has attempted to relate these process variables to what some would call objective measures of organization effectiveness. In addition, almost no research has been done that considers the relationship between process and outcome variables within the context the organization is operating.

The purpose of the present study is to examine the predictive utility of a limited number of internal organization process variables and external environmental variables on commonly used measures of organization performance. We believe that research on the general topic of organizational effectiveness must consider the simultaneous effects of internal process variables and the nature of the external context that impacts on the activities of the organization.

An Internal View of Organizational Performance

Examination of typical models of organization effectiveness (cf. Campbell, 1978) would suggest that attitudes and behaviors of organization members are thought to have significant impact on the profit, sales, growth and survival of the organization.

One of the most widely known and researched models endorsing the internal view of organizational performance is Likert's System IV Theory. Based on several years of research, Likert contends that in general, the same basic principles of organizing and managing human behavior are used by managers who achieve the highest performance outcomes (Likert, 1961; Likert, 1967; Likert & Likert, 1976). The assertion is that the closer management practices are to participative management and the further these practices are from exploitive authoritative management, the higher the performance outcomes of the organization.

Examination of the literature on Likert's model produced a wide variety of studies. In evaluating this body of research, it was decided to omit reports that were essentially descriptions and testimonials of past succesful applications. The end result consisted of four intervention studies (Likert, 1967; Marrow, Bowers & Seashore, 1967; Dowling, 1975; Likert & Likert, 1976) and seven correlation studies (Likert, 1967; Bowers & Seashore, 1966; Roberts, Miles & Blankenship, 1968; Kovic, Rus, & Tannenbaum, 1971; Taylor & Bowers, 1972; Butterfield & Farris, 1974; Pennings, 1976; Likert & Likert, 1976).

The overall results of these studies suggest tentative support for the hypothesized relationship between employee descriptions of management practices and measures of organization performance. There are problems, however, with aspects of the research. The major shortcoming that we identified was the total lack of attention directed to factors in the external environment of the organization that might also contribute to variation in performance measures. For example, turnover rate has been used as one index of organization performance yet environmental characteristics such as local unemployment rate have not been considered as an independent predictor or as a moderator. Failure to consider environmental factors could produce incomplete and possibly inaccurate theories.

Inattention to external variables, which is a serious problem with Likert's research, does not necessarily imply that the model's predictions would be invalid if certain external variables were considered. In certain situations, conditions in the environment might enhance the predictability of internal process models of organization performance. External factors could be a source of criterion contamination. Research in employee selection (cf. Guion, 1965) suggests that when extraneous factors can be identified and measured, they should be controlled for in the determination of the predictive validity of selection tests. The same principle applies to research on predictors of organization performance. Consider once again the proposed relationship between management practices and turnover rate within the unit. Likert's research has not assessed or controlled for local unemployment rate. But, doing so might remove a source of criterion contamination. That is, to accurately examine the impact of internal management practices on organization turnover rate, units that are to be compared should not be in drastically different labor markets. Failure to control for differences in unemployment rates could result in a unit with System IV management practices in a competitive labor market having a higher turnover rate than a unit with System I management practices in a non-competitive labor market. Faced with the demands and constraints of a competitive labor market, the System IV unit might be doing very well in retaining valued employees.

An External View of Organizational Performance

Over the past few years, Pfeffer and Salancik (Pfeffer, 1978; Pfeffer & Salancik, 1978; Salancik & Pfeffer, 1977) have demonstrated through their own research and that of others the importance of the environmental context for understanding organization performance. Actions that an organization can take are severely limited. Pfeffer and Salancik assert that because of contingencies and constraints in the external environment, organizational behavior and performance is over-determined. The success, growth and survival of an organization is inextricably tied to complex events that often times are not known to organization members or are beyond the influence of the organization. Because management practices directed internally have virtually no impact on environmental contingencies and events, Pfeffer and Salancik (1978) state that models such as Likert's System IV are ill advised. If management is to have any impact on organization performance, it should direct actions outward toward the reduction of uncertainty in the environment.

Whereas Pfeffer and Salancik are correct in stating that much past research has neglected to systematically consider external demands and constraints, they perhaps under estimate the significance of management practices. They cite the results of Lieberson and O'Connor (1972) as evidence of their position on the external control of organizations. This study examined sales, profit and net return for 167 companies in 13 industries over a period of 20 years. The majority of variation in organizational performance was accounted for by examination of yearly economic cycles, industry type and company. Organization leadership was reported to have little impact. But, it should be noted that these predictors were not independent and that different conclusions could be reached depending on whether or not the other predictors were controlled for statistically in the analysis. In this study, the contribution of leadership was tested only after the effects of all the other predictors were taken into consideration. Also, Pfeffer and Salancik (1978) do not clearly state that when profit margins were lagged three years after leadership measures, leadership accounted for more variance than any of the other external factors. Finally, perhaps the most critical comment that can be made is that leadership was poorly operationalized. In this study, quality of top administration was defined as whether or not the Chief Executive Officer of the corporation changed during the year. Although the CEO is in most instances the person with the greatest influence in the company, we believe that simple knowledge of a change in this position can hardly be equated with Likert's ratings of management practices as reported by organization members.

Our criticism of this work should not detract from the basic thrust of Pfeffer and Salancik's statements. External factors do contol organizations. Government regulations, economic factors, and even revolutions in foreign governments have undeniable consequences. Understanding organizations requires a sincere appreciation for the context in which they operate. Likert's work would be more complete if organizational context had been included in research. We believe that over emphasis on external factors, however, is as myopic as over emphasis on internal factors.

Development of Hypotheses

Arguements over how much variance in organization performance can be attributed to internal versus external factors is dysfunctional. Research is needed that considers the joint impact of the nature of the organization and the nature of the context in which the organization must function.

The present study was designed to examine the general notions of Likert's theory with the added consideration of two seemingly important environmental variables. Specifically, employee reactions to an attitude survey were used to index the quality of supervisory practices, group process and organization practices. Archival data were available from 19 units of the same retail sales organization. Performance measures consisted of store profit, sales per employee, turnover rate for full-time employees and turnover rate for part-time employees. Environmental variables were local unemployment rate and mean effective buying power of families in the county in which the retail store was located.

Based on Likert's research and the work of Pfeffer and Salancik, four hypotheses were developed.

Hypothesis I: Aggregate employee descriptions of group process, supervisory practices and organization practices will be positively correlated with measures of profit and sales and negatively correlated with turnover rates.

Hypothesis II: Mean effective buying power will be positively correlated with profit and sales per employee, and local unemployment rate will be negatively correlated with turnover rate.

Hypothesis III: Aggregate employee descriptions of internal organization practices and external environmental characteristics will jointly predict organization performance.

and, Hypothesis IV: The predictive relationship between internal organization practices and organization performance will be a function of whether or not the organization context is considered.

METHOD

Subjects and Units for Analysis

Subjects (N = 2540) were salespersons, sales support personnel (N = 2008) and supervisors (N = 532) from 19 geographically dispersed stores that were part of the same retail sales organization. All people were full-time employees who anonymously participated in a larger organizational survey conducted by the parent organization. Participation was voluntary although employees were given release time from work to complete the forms. Response rate exceeded 90% in each of the stores. Although not verifiable with independent data, because the stores belonged to the same firm, it was felt that little variation existed between stores on structure, technology, output and criteria used to select and train personnel. Consequently, results would not be expected to be open to alternative hypotheses stemming from widely divergent organization characteristics. Also, use of different units within the same organization provides for greater measurement equivalency across performance outcomes.

Assessment of Variables

Organizational performance measures were provided by the organization. Percent profit and sales per employee were given in z-score form to maintain the confidentiality of store records. This should not have a detrimental effect on analyses and interpretation. Annual turnover rate for full-time and part-time employees were given in percentage form.

With these performance measures, two aspects of the store's environment were thought salient. Mean effective buying power for the county in which the store was located was used as an index of the potential of the store to show a profit and to report high sales. Thus, this variable could be interpreted as both an environmental constraint and an environmental opportunity. Data were taken from Sales and Marketing (1974, 1975) for the appropriate years to match the performance data. Local unemployment rate also was thought to index a pertinent aspect of the environmental context. Turnover rates have been predicted from unemployment figures (Roberts, Hulin & Rousseau, 1978). These data were taken from statistics compiled under the Comprehensive Employment and Training Act and they also were at the county level. Unfortunately, in some cases it was not possible to retrieve unemployment rates for the same year as the turnover rates.

The best available data were for a period one to two years after the turnover records. The decision was made to use this data given that it might be less than accurate because it was the best measure available.

The procedure used to assess employee descriptions of managerial practices was somewhat complicated, but a brief explanation will be attempted. First, recall that we were using a survey developed by the organization. It was not possible to administer the Survey of Organizations (Taylor & Bowers, 1972; Likert & Likert, 1976) in order to examine Likert's predictions. However, inspection of the archival survey and the Survey of Organizations revealed that many items seemed to deal with the same general topics. We wanted to maintain contact with the basic theoretical notions behind Likert's work. In order to do this, items from the Survey of Organizations and representative items from the archival company survey were separately typed on index cards. Twenty expert judges familar with Likert's theory were presented summaries of four major dimensions discussed by Likert (Likert & Likert, 1976). These dimensions were supervisory leadership, climate, peer leadership and group process. The judges were asked to sort all of the items into one of the four dimensions. This procedure is similar to the retranslation step used to construct behaviorally anchored rating scales (Smith & Kendall, 1963). We hoped to find that the judges would sort the items from the Survey of Organizations back into the dimensions defined by Likert's empirical work. At the same time, we would discover which items from the archival company survey were sorted into Likert's dimensions.

A chi square analysis of each of the distributions of the 42 items from the Survey of Organizations and the 39 items from the archival company survey showed that none of the Survey of Organizations items and only one of the archival surveys items had a random distribution across the four dimensions.

Furthermore, all of the Likert items were correctly sorted. No items from the archival company survey "loaded" unto the peer leadership dimension, however. Coefficient alpha was calculated for each of the three remaining dimensions with the objective to delete items that lowered internal consistency estimates. Four items were dropped. The final result was an eight item scale measuring supervisory practices (α =.91), a 22 item scale measuring organization practices (α =.83) and a six item scale measuring group process (α =.63). As a final check on the classification of items, an index for comparing the joint agreement of several observers was employed. The G statistic (Light, 1971) tests the null hypothesis of random agreement of a group of observers with a standard. The null hypothesis was rejected beyond $p < .01$. Although it would have been desirable to have actually administered the Survey of Organizations or some other valid and accepted measure, this was not possible. The instrument used, however, was thought to be a valid assessment of the general nature of internal managerial practices.

RESULTS

All data analyses were conducted using the store as the unit of analysis. For each store, the mean of employee responses to the three dimensions was computed.

Results pertaining to Hypothesis I are presented in Table 1. Supervisory

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Insert Table 1 about here

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practices were significantly correlated with the other two aggregate measures and with sales per employee. Group process was significantly correlated with profit, sales per employee and turnover rate for part-time employees. Organizational practices was correlated with turnover rate for part-time employees.

Of interest, the four performance measures were not highly interrelated. Out of 12 correlations between aggregate employee descriptions and objective performance measures, five correlations were statistically significant and all 12 correlations were in the predicted direction. Thus, moderate support was found for Hypothesis I with these data from 19 stores.

Results for Hypothesis II can be found in Table 2. Mean effective buying

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Insert Table 2 about here

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power correlated r = .65 with profit and r = .53 with sales per employee. Local unemployment rate correlated r = -.52 with turnover rate for full-time employees but was not significantly correlated with turnover rate for part-time employees. These results were taken as support for Hypothesis II.

Results for Hypothesis III also are presented in Table 2. Because the sample was limited to 19 stores, the three aggregate employee descriptions were combined into one measure of internal managerial practices. Both measures of internal practices and external characteristics were placed simultaneously into a regression equation. For the criterion of store profit, the beta weights for both predictors were significant (R^2 = .59). For the criterion of sales per employee, both predictors again had significant beta weights (R^2 = .50). Neither predictor was useful in explaining variation in turnover rates for part-time employees. Finally, only local unemployment rate had a significant beta weight when used to predict turnover for full-time employees (R^2 = .29). Hypothesis III was supported when sales per employee and store profit were used as criteria. There was little support for the hypothesis when turnover rates were used.

Results for Hypothesis IV are presented in Table 3. Each of the three aggregate employee description measures were correlated with the four

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Insert Table 3 about here

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performance measures and with the residuals of those performance measures. Residual was defined as the difference between actual performance and predicted performance from the environmental variable. For three of the nine pairs of correlations, the two correlations in the pair were significantly different from each other using a test for dependent correlations. Organizational practices predicted profit residual better than it predicted actual profit. In contrast, this same variable predicted actual turnover better than it predicted turnover residuals. When profit and sales per employee were examined, all of the correlations with performance residuals were larger than correlations with actual performance. But, the opposite trend was found when turnover was the criterion. These results provide weak support for Hypothesis IV.

Discussion

The overall results obtained in this study of 19 retail sales units support the general positions developed from the work of Likert (1967), Pfeffer and Salancik (1978) and others. Measures of managerial practices within the unit were correlated with measures of profit, sales per employee and turnover rate. This finding extends Likert's model in that the relationships were obtained with a measure of managerial practices that was similar to but not identical with the measures used by Likert and his associates. The results support Pfeffer and Salancik's contention that organization outcomes are dependent on forces in the external environment. Profit and sales per employee were correlated with mean effective buying power in the community in which the store was located and unemployment rate was correlated with turnover rate for full-time employees. Support also was found for the hypothesis that performance measures would be a joint function of internal characteristics of the unit and external characteristics of the unit's environment. Finally, there was some evidence, although limited, to suggest that relationships between internal unit practices and measures of unit performance would be affected by whether or not external factors were considered. In all instances when performance was operationalized as profit or sales per employee, managerial practices were more highly correlated with the performance residual than with actual performance. But, when performance was operationalized as turnover rate, the opposite pattern of results were observed.

The distinction between actual performance and residual performance merits further discussion even noting that our results were weak. The external environment can be conceptualized and classified in many ways. We believe that one meaningful way to look at the environment is to consider three functions the environment serves. First, there is a demand function. There are certain actions required of the organization if the organization is to survive. Failure to comply with environmental demands will have serious negative consequences for the organization. Second, there is a constraint function. We define constraint consistent with Pfeffer and Salancik (1978). That is, there is something in the organization's context that limits the degree to which various actions and outcomes occur. Finally, there is the opportunity function. The environment is responsive to actions taken by the organization and there are few limits to what the organization can strive to accomplish.

The implications of this conceptualization of the external environment suggest that managerial actions will be less strongly related to performance outcomes when those outcomes are constrained and that managerial actions will be more strongly related to performance outcomes when opportunities to display those outcomes are present. This arguement is similar to that suggested by researchers in the field of employee motivation (cf. Terborg, Richardson & Pritchard, 1980). Differences in employee ability levels will be most evident when performance is measured during conditions of high motivation than during conditions of low motivation. Thus, we might expect that good or bad managerial practices would be most evident during periods of environmental opportunities and differences in outcomes between good and bad managerial practices would be least evident during periods of environmental constraints. In the present study, mean effective buying power in the community could be interpreted as an opportunity while unemployement could be interpreted as a constraint.

Although the predictive relationship between internal managerial practices and organizational outcomes might be greatest during periods of opportunity, it should be noted that the importance of managerial actions might be most relevant during periods of severe constraints. Even though the differences between good and bad management may be slight, the difference in this critical time period may be significant for the survival and growth of the organization. Consider the case of a president of a state university. The president can have greatest impact during periods of plentiful resources and during periods of financial emergency.

The present study is only suggestive of these hypothesized relationships between managerial practices and environmental demands, constraints and opportunities. But, we believe that future research should consider the impact of these contextual factors on both the magnitude of predictive relationships and the significance of differences for the survival of the organization.

Our discussion of this research has attempted to avoid getting into conceptual and operational problems that accompany research on organizational effectiveness. We instead have focused on three objectively defined outcomes that this organization monitors. We make no claims as to the relationship between this research and the broad area of organizational effectiveness. We recognize, however, the critical issues in studying organizational effectiveness (cf. Goodman & Pennings, 1980; Pfeffer & Salancik, 1978; Steers, 1977) but prefer to limit the current work to identifying predictor -- criterion relationships where the unit of analysis is the organization.

The present study has both strengths and weaknesses. Although the total number of respondents exceeded 2500, when the store was used as the unit for analysis the sample size was 19. Relative to much of psychological research and the statistical procedures employed this was a small sample size. Relative to research on Likert's model it was moderate in size. The studies reviewed were based on data from one to 40 units or organizations. The design was cross-sectional and usual limitations of causal interpretation apply. But, the variables were measured in such a way as to rule out problems associated with common method bias. We note once again, however, that for some stores the measure of local unemployment was taken one or two years after the performance data were collected.

In conclusion, the present study makes a contribution to the literature on Likert's model in that support for his predictions were obtained with a different measure of managerial practices, and when environmental factors were considered as predictors of performance outcomes in addition to measures of managerial practices. The results demonstrate that future research in this area must consider not only the nature of the organization but the nature of the organizational context as well. In contrast with Pfeffer and Salancik (1978), we beleive the present study demonstrates that it is necessary to construct models and design research that consider both the external control of organizations and the internal control of organizations.

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FOOTNOTE

This research was supported in part by Grant No. N00014-78-C-0756, from the Office of Naval Research, James R. Terborg principal investigator. We thank F. Smith for assistance throughout this project and C. Hulin for comments on various stages of development. Reprints can be obtained from James R. Terborg, Department of Management, College of Business Administration, University of Oregon, Eugene OR 97403.

Table 1

Correlations Among Measures of

Internal Organizational Practices and Organizational Performance[1,2]

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1)	Supervisory Practices	--	.57	.63	.16	.39	-.23	-.32
(2)	Group Process		--	.76	.42	.40	-.31	-.43
(3)	Organization Practices			--	.26	.30	-.32	-.40
(4)	Profit				--	.36	-.23	-.36
(5)	Sales per Employee					--	-.05	-.59
(6)	Turnover - Full-time						--	.32
(7)	Turnover - Part-time							--

[1] N = 19

[2] $r \geq .39$, $p < .05$ (one-tailed test)

Table 2

Regression of Performance Variables on

Internal Organizational Practices and Environmental Characteristics

	Beta	r	R
		Profit	
Internal Practices	.42*	.28	.77*
Environmental Characteristics[1]	.72*	.65*	
		Sales per Employee	
Internal Practices	.48*	.37	.71*
Environmental Characteristics[1]	.61*	.53*	
		Turnover/ Full-time	
Internal Practices	-.12	-.32	.54*
Environmental Characteristics[2]	-.48*	-.52*	
		Turnover/Part-Time	
Internal Practices	-.37	-.42*	.44
External Characteristics[2]	-.14	-.29	

[1] Mean Effective Buying Power

[2] Local Unemployment Rate

* $p < .05$

Table 3

Correlations Between Internal Organizational Practices

and Organizational Performance with External Environmental

Characterisitcs Not Controlled and Controlled

	Profit	Profit Residual[1]
Supervisory Practices	.16	.31
Group Process	.42*	.50*
Organizational Practices	.26	.53*+
	Sales/Employee	**Sales/Employee Residual[1]**
Supervisory Practices	.39*	.53*
Group Process	.40*	.43*
Organizational Practices	.30	.49*
	Turnover/P T	**Turnover/P T Residual[2]**
Supervisory Practices	-.32	-.24
Group Process	-.43*	-.39*
Organizational Practices	-.40*	-.28+
	Turnover/F T	**Turnover/F T Residual[2]**
Supervisory Practices	-.23	-.06
Group Process	-.31	-.25
Organizational Practices	-.32	-.10+

[1]Residual = Actual Performance - Performance Predicted from Mean Effective Buying Power

[2]Residual = Actual Turnover - Turnover Predicted from Local Unemployment Rate

+Correlations are significantly different from each other

$^*p < .05$

[illegible]

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San Diego, CA

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New London, Box 900
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Pearl Harbor, HI 96860

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Charleston, SC 29408

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Naval Military Personnel Command (2 copies)
HRM Department (NMPC-6)
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Educational Equity Grants Program
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National Institute of Education
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National Institute of Mental Health
Minority Group Mental Health Programs
Room 7 - 102
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Rockville, MD 20852

Office of Personnel Management
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1900 E Street, NW.
Washington, DC 20415

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Social and Developmental Psychology
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LIST 13
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Maxwell AFB, AL 36112

AFOSR/NL (Dr. Fregly)
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